DEPARTMENT OF THE ARMY
SOUTH ATLANTIC DIVISION, CORPS OF ENGINEERS
ROOM 10M15, 60 FORSYTH ST., S.W.
ATLANTA, GA 30303-8801

REPLY TO
ATTENTION OF:

CESAD-RBT

30 August 2011

MEMORANDUM FOR COMMANDER, JACKSONVILLE DISTRICT (CESAJ-EN-T/ STEPHEN C. DUBA)

SUBJECT: Approval of the Review Plan for S-65EX1 Structure, Kissimmee River Restoration Project, Okeechobee County, Florida

1. References:

a. Memorandum, CESAJ-EN-T, 1 August 2011, Approval of the Review Plan for S-65EX1 Structure, Kissimmee River Restoration Project, Okeechobee County, Florida (Enclosure).

b. EC 1165-2-209, Civil Works Review Policy, 31 January 2010.

c. WRDA 2007 H. R. 1495 Public Law 110-114, 8 November 2007.

2. The enclosed Review Plan for Approval of the Review Plan for S-65EX1 Structure, Kissimmee River Restoration Project, dated 1 August 2011 submitted by reference 1.a, has been reviewed by this office and is approved in accordance with reference 1.b.

3. The South Atlantic Division concurs with the determination that a Type II Independent External Peer Review (IEPR) is not required on this project. The primary basis for the concurrence that a Type II IEPR is not required is the determination that failure of the S-56EX1 structure does not pose a significant threat to human life. Non-substantive changes to this RP do not require further approval.

4. The District should take steps to post the Review Plan to its web site and provide a link to CESAD-RBT. Before posting to the web site, the names of Corps/Army employees should be removed.

5. The SAD point of contact is Mr. James Truelove, CESAD-RBT, 404-562-5121.

FOR THE COMMANDER:

Encl

CHRISTOPHER T. SMITH, P.E.
Chief, Business Technical Division

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

CESAJ-EN-T

1 August 2011

MEMORANDUM FOR Commander, South Atlantic Division (CESAD-RBT)

SUBJECT: Approval of Review Plan for S-65EX1 Structure, Kissimmee River Restoration Project, Okeechobee County, Florida

1. References.

a. EC 1165-2-209, Civil Works Review Policy, 31 January 2010

b. WRDA 2007 H. R. 1495 Public Law 110-114, 08 Nov 07

2. I hereby request approval of the enclosed Review Plan and concurrence with the conclusion that Type II Independent External Peer Review (IEPR) of this project is not required. The Type II IEPR determination is based on the EC 1165-2-209 Risk Informed Decision Process as presented in the Review Plan. Approval of this plan is for Design and Construction Phase Implementation Documents. The Review Plan complies with applicable policy, provides Agency Technical Review and has been coordinated with the CESAD. It is my understanding that non-substantive changes to this Review Plan, should they become necessary, are authorized by CESAD.

3. The district will post the CESAD approved Review Plan to its website and provide a link to the CESAD for its use. Names of Corps/Army employees are withheld from the posted version, in accordance with guidance.

FOR THE COMMANDER:

Encl

STEPHEN C. DUBA, P.E.
Chief, Engineering Division

REVIEW PLAN

For

S-65EX1 STRUCTURE
Kissimmee River Restoration Project
Okeechobee County, Florida

Jacksonville District

1 August 2011

THE INFORMATION CONTAINED IN THIS REVIEW PLAN IS DISTRIBUTED SOLELY FOR THE PURPOSE OF PREDISSEMINATION PEER REVIEW UNDER APPLICABLE INFORMATION QUALITY GUIDELINES. IT HAS NOT BEEN FORMALLY DISSEMINATED BY THE U.S. ARMY CORPS OF ENGINEERS, JACKSONVILLE DISTRICT. IT DOES NOT REPRESENT AND SHOULD NOT BE CONSTRUED TO REPRESENT ANY AGENCY DETERMINATION OR POLICY.

US Army Corps of Engineers ®

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1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope of review activities for the S-65EX1 Structure, Kissimmee River Restoration Project, Okeechobee County, Florida. Review activities consist of District Quality Control (DQC) and Agency Technical Review (ATR). The project is in the Intermediate Phase. The related project documents consist of Plans and Specifications (P&S) and a Design Documentation Report (DDR). Upon approval, this review plan will be included into the Project Management Plan (PMP) as an appendix to the Quality Management Plan (QMP).

b. References.

(1). EC 1165-2-209, Civil Works Review Policy, 31 January 2010
(2). ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug 1999
(3). ER 1110-1-12, Engineering and Design Quality Management, 21 Jul 2006

c. Requirements. This review plan was developed in accordance with EC 1165-2-209, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and Operation, Maintenance, Repair, Replacement and Rehabilitation (OMRR&R). The EC provides the procedures for ensuring the quality and credibility of U.S. Army Corps of Engineers (USACE) decision, implementation, and operations and maintenance documents and other work products. The EC outlines three levels of review: District Quality Control, Agency Technical Review, and Independent External Peer Review. Refer to the EC for the definitions and procedures for the three levels of review.

d. Review Management Organization (RMO). The South Atlantic Division is designated as the RMO. The RMO is responsible for managing the review activities described in this Review Plan.

2. PROJECT INFORMATION AND BACKGROUND

Located in central Florida, the Kissimmee River is the major inflow to Lake Okeechobee and the headwaters of the Everglades system. The river was channelized in the 1960's to provide flood protection causing degradation of the ecosystem. The Kissimmee River Restoration (KRR) project will establish an environment conducive to the fauna and flora that existed prior to the river channeling efforts by restoring over 40 square miles of river and floodplain ecosystem including 43 miles of meandering river channel and 27,000 acres of wetlands.

Higher Lake Kissimmee stages, after the completion of restoration activities, require increased discharge from the Upper Kissimmee Basin through the S-65 structure during storm events to maintain existing flood damage reduction benefits. All downstream structures have been upgraded to handle this additional flow. The KRR project completes the flood mitigation activities in the Lower Kissimmee River Basin (Figure 2.1).

The existing S-65E Spillway, which is located in Pool E (Figure 2.2), is the downstream outlet for the historic Kissimmee River channel and the C-38 canal. The current structure consists of 6 bays with design discharge capacity of 4000 cfs each totaling 24,000 cfs. The increase in discharge from the upper Kissimmee Basin upon implementation of the Headwater Revitalization Schedule for S-65 will change the required discharge capacity for the Pool E outlet by over 8000 cfs.

A new three bay spillway will be constructed to discharge the additional 8000cfs water volume. The structure will be constructed within C-38, approximately 150ft south of the existing S-65E gated spillway (Figure 2.3). The new structure will be a reinforced concrete ogee weir spillway with cable operated vertical lift gates. Refer to the following site for additional information.

http://www.saj.usace.army.mil/Divisions/Everglades/Branches/ProjectExe/Sections/UECKLO/KRR.htm

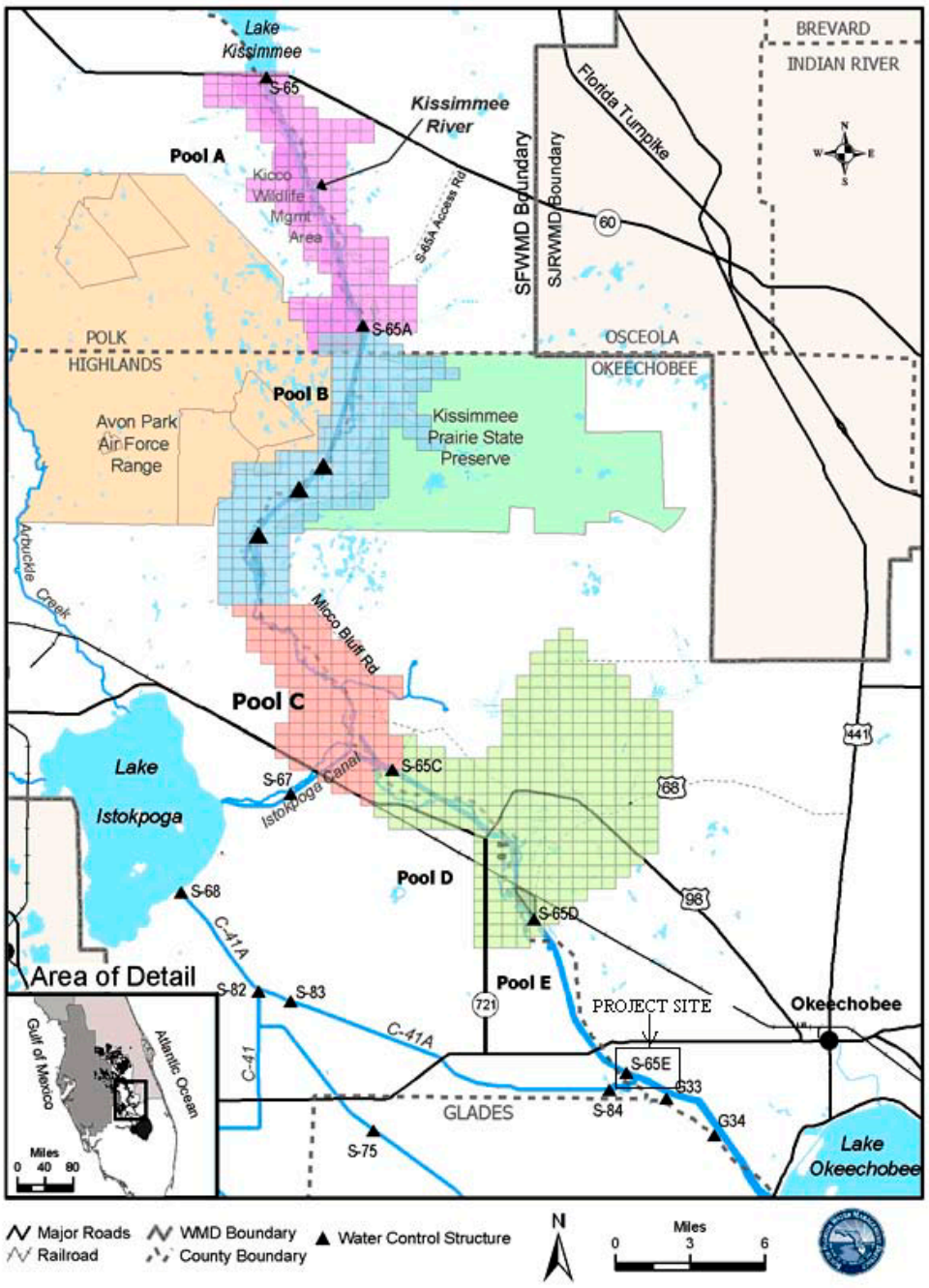

Figure 2.1 Lower Kissimmee River Basin.

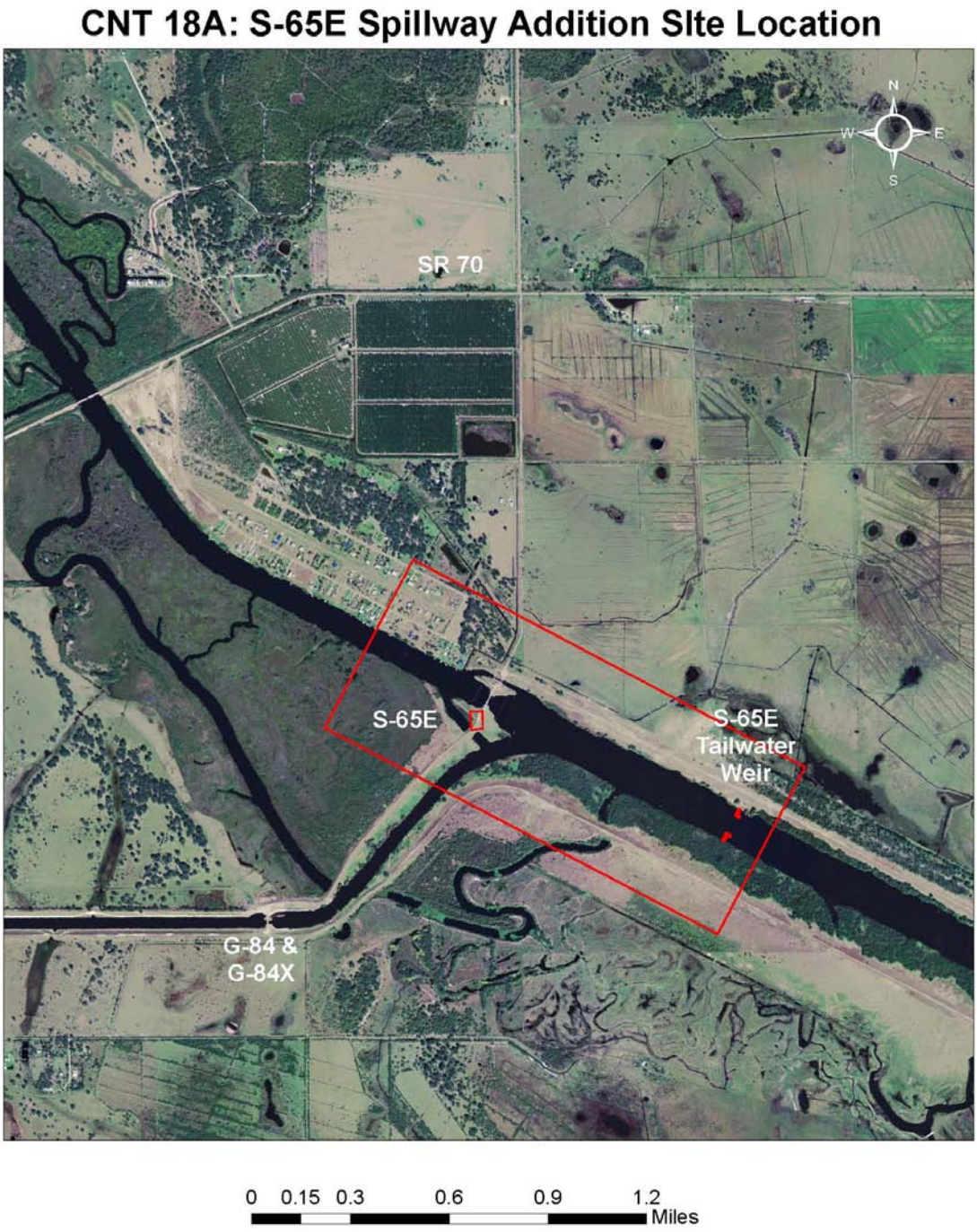

Figure 2.2 S-65E Spillway Addition Project Site Including Surrounding Structural Features

Figure 2.3. Project Site Plan Including Location of New Structure And New Channel Alignment.

3. DISTRICT QUALITY CONTROL

District Quality Control and Quality Assurance activities for implementation documents (DDRs and P&S) are stipulated in ER 1110-1-12, Engineering & Design Quality Management. The subject project DDR and P&S will prepared by the Jacksonville District using the SAJ procedures and will undergo DQC and QC Review and Certification.

4. AGENCY TECHNICAL REVIEW

a. Scope. Agency Technical Review (ATR) is undertaken to "ensure the quality and credibility of the government's scientific information" in accordance with EC 1165-2-209 and ER 1110-1-12. An ATR will be performed on the P&S and DDR intermediate and final submittals.

ATR will be conducted by individuals and organizations that are external to the Jacksonville District. The ATR Team Leader will be a Corps of Engineers employee outside the South Atlantic Division. The required disciplines and experience are described below.

ATR comments will be documented in the DrChecks^{sm} model review documentation database. DrChecks^{sm} is a module in the ProjNet^{sm} suite of tools developed and operated at ERDC-CERL (www.projnet.org).

At the conclusion of ATR, the ATR team will prepare a Review Report summarizing the review. Review Reports will be considered an integral part of the ATR documentation and shall:

- Identify the document(s) reviewed and the purpose of the review;
- Disclose the names of the reviewers, their organization affiliations, and include a short paragraph on both the credentials and relevant expertise of each reviewer;
- Include the charge to the reviewer;
- Describe the nature of their review and their findings and conclusions;
- Identify and summarize each unresolved issues (if any); and
- Include a verbatim copy of each reviewers comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

b. ATR Disciplines. As stipulated ER 1110-1-12, ATR members will be sought from the following sources: regional technical specialists (RTS); appointed subject matter experts (SME) from other districts; senior level experts from other districts; Center of Expertise staff; experts from other USACE commands; contractors; academic or other technical experts; or a combination of the above. The ATR Team will be comprised of the following disciplines; knowledge, skills and abilities; and experience levels.

Hydrologic and Hydraulic Engineering. The team member should be a registered professional. Experience needs to encompass flood risk management structure design using hydrologic and hydraulic models to support development of Plans and Specifications.

Geotechnical Engineering. The team member should be a registered professional engineer. Experience needs to encompass embankment design and analyses for the construction of spillways to support the development of Plans and Specifications. Cofferdam experience is desirable.

Structural Engineering. The team member should be a registered professional engineer. Experience needs to encompass design and analyses of spillways and other flood risk

management structures to support the development of Plans and Specifications. Cofferdam experience is desirable.

Civil Engineering. The team member should be a registered professional engineer. Experience should include site development expertise that includes canal design, earthwork operations, embankment design and construction phasing.

NEPA Compliance. The team member should have experience in NEPA compliance activities and preparation of Environmental Assessments and Environmental Impact Statements for civil work projects.

ATR Team Leader. The ATR Team Leader should have experience with flood risk management projects. ATR Team Leader may be a co-duty to one of the review disciplines.

5. INDEPENDENT EXTERNAL PEER REVIEW

a. General. EC 1165-2-209 provides implementation guidance for both Sections 2034 and 2035 of the Water Resources Development Act (WRDA) of 2007 (Public Law (P.L.) 110-114). The EC addresses review procedures for both the Planning and the Design and Construction Phases (also referred to in USACE guidance as the Feasibility and the Pre-construction, Engineering and Design Phases). The EC defines Section 2035 Safety Assurance Review (SAR), Type II Independent External Peer Review (IEPR). The EC also requires Type II IEPR be managed and conducted outside the Corps of Engineers

b. Type I Independent External Peer Review (IEPR) Determination. A Type I IEPR is associated with decision documents. No decision documents are covered by this Review Plan and therefore, a Type I IEPR is not applicable to the implementation documents addressed by this Review Plan.

c. Type II Independent External Peer Review (IEPR) Determination (Section 2035). This project does not trigger WRDA 2007 Section 2035 factors for Safety Assurance Review (termed Type II IEPR in EC 1165-2-209) and therefore, a review under Section 2035 is not required. The factors in determining whether a review of design and construction activities of a project is necessary as stated under Section 2035 along with this review plans applicability statement follow.

(1) The failure of the project would pose a significant threat to human life.

Failure of S-65E and/or S-65EX1 would not pose a threat to human life upstream or downstream of the project. Failure discharges would go into the Herbert Hoover Dike System. The system can accommodate related inflow.

(2) The project involves the use of innovative materials or techniques.

This project will utilize methods and procedures used by the Corps of Engineers on other similar works. A deviation from standard materials will be used for the vertical lift gate. Stainless steel will be used for the main structural elements instead of A36 carbon steel.

(3) The project design lacks redundancy.

At S-65E structures, existing and new spillways have a total of nine bays. Except under extreme conditions, the temporary operating loss of one or two gates should not affect discharges to Pool E. Both spillways have back-up generators in the event of power loss.

(4) The project has a unique construction sequencing or a reduced or overlapping design construction schedule.

This project's construction does not have unique sequencing or a reduced or overlapping design. The anticipated installation sequence and schedule has been used successfully by the Corps of Engineers on other similar works.

6. MODEL CERTIFICATION AND APPROVAL

This project component does not use any engineering models that have not been approved for use by USACE.

7. PROJECT DELIVERY TEAM LEADS

Project Manager: Tiphanie Jinks
Project Engineering Technical Lead: Jack Fross

CESAJ-EN-DL, Civil: Chris Ralph
CESAJ-EN-DS, Structural: Jack Fross
CESAJ-EN-DC, Specifications: Matt Smith
CESAJ-EN-DG, Geomatics: Dave Robar
CESAJ-EN-GS, Geotechnical: Earl Fisher (CENAP-EC-EG)
CESAJ-EN-C, Cost: Carlos Rivera
CESAJ-EN-WH, Hydraulics: Rob Tucker
CESAJ-EN-GG, Geology: Eve Huggins
CESAJ-EN-DM, Mechanical: Mike Gruber
CESAJ-EN-DM, Electrical: Vin Le
CESAJ-PD-EQ, Environmental: Wendy Zerby

8. BUDGET AND SCHEDULE

a. Project Milestones.

Intermediate Design Submittal – 26Sep11

Quality Control Review – 28Sep-19Oct11

Intermediate Design Phase ATR – 20Oct-13Dec11

Final Design Submittal - 23 December 2011

Quality Control Review – 15Feb-13Mar12

Final Design Review (ATR) – 14Mar-30Apr12

ATR Certification –30Arp12

b. ATR Schedule and Cost. Funds are available to execute ATR and schedule as outlined above. For both the intermediate and final ATR, ach reviewer will be afforded a total of 40 hours for ATR plus 8 hours for coordination. 24 hours will be provided for ATR Team Leader duties. The estimated cost range is in the $20,000-$25,000 range.

9. POINTS OF CONTACT

Per guidance, the names of the following individual will be posted on the Internet with the Review Plan. Their titles and responsibilities are listed below.

Jacksonville District POCs:

Review Plan, ATR and QM Process,	Jimmy D. Matthews 904-232-2087 Jimmy.D.Matthews@usace.army.mil
Project Information (PM) & (ETL),	Tiphanie C. Jinks (PM) 904-232-1548 Tiphanie.c.jinks@usace.army.mil Jack R. Fross (ETL) 904-232-2260 jack.r.fross@usace.army.mill
South Atlantic Division,	James C. Truelove 404-562-5121 James.C.Truelove@usace.army.mil